Chapter 9

The 5 A Day Worksite Program

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INTRODUCTION

At the beginning of the national 5 A Day Program, it was apparent that most adults were falling short of the 5 A Day goal and were eating fewer than five servings of vegetables and fruit daily (Subar et al., 1995). These adults included those in special segments of the population who do not typically receive nutrition education and who may not be reached frequently by the national media and point-of-purchase programs implemented by the National Cancer Institute (NCI) or the Produce for Better Health Foundation (PBH). Of the nine research projects funded by NCI to test methods for reaching specific and/or underserved populations, research groups from the Arizona Cancer Center, the Dana-Farber Cancer Institute (Massachusetts), and the Fred Hutchinson Cancer Research Center (Washington State) developed and evaluated three distinct interventions for adults in the worksite environment (see Table 1). This chapter briefly reviews the activities and outcomes of these three projects.

Advantages of Worksite Interventions

The worksite offers many advantages for educating adults about the need for, and benefits of, eating five daily servings of vegetables and fruit, as well as for motivating them to do so. Many Americans work outside the home. Most of them spend up to half of their waking hours at work, where they eat at least one meal. Workplaces usually have formal communication channels, and many have worksite wellness programs. Frequently, there are well-established methods for reaching employees with health information, programs, and cues to action. The worksite can also be structured to provide a health-promoting environment by offering such supports as healthy food selections, nonsmoking policies, and fitness facilities (Heimendinger et al., 1995). The stability of many workforces facilitates continuous education and longitudinal measurement of program outcomes. Employees often share information, attitudes, and skills with coworkers (Ibarra, 1992; Morrill, 1995), and they may discuss information received through worksite wellness programs with both coworkers and their families.

Underserved Adult Populations

Three worksite interventions were designed to improve the intake of vegetables and fruit among employee populations that are traditionally underserved by nutrition education programs (i.e., minority, less-educated, and male employees) or that often do not receive health promotion programs in the workplace (employees of small companies or public employers).

The worksites that received the 5 A Day interventions were 22 community health centers in east-central Massachusetts (27 to 640 employees per center, with 20 centers having fewer than 120

Table 1. Project Summaries

Project Name	*Lead Agency*	*Target Group*	*Intervention Elements*	*Theories Used in Intervention*	*Community Collaborators*
TreatWell 5 A Day Program *(Massachusetts)*	Dana-Farber Cancer Institute	Employees in community health centers	• 5 A Day media • Promotion of the Cancer Information Service • Employee advisory boards • Kickoff event (fair) • Small-group discussion series • Educational campaigns • Organizational change strategies • Family-focused materials and activities	*Individual level* Social Cognitive Theory Adult Learning Theories Transtheoretical Model *Social group level* Community Development Model Social Ecological Model	22 community health centers in east-central Massachusetts
5 A Day Program (Seattle, Washington)	Fred Hutchinson Cancer Research Center	Employees in small- to medium-sized businesses	• Employee advisory boards • Project intervention specialist • 5 A Day media • Preliminary campaign • Kickoff event • Self-help manual • Changes in food environment	*Individual level* Transtheoretical Model *Social group level* Community Organization Approach	28 small- to medium-sized businesses in the Seattle metropolitan area
5 A Day for the Overlooked Worker Program (Arizona)	Arizona Cancer Center	Nonmanagerial labor and trades employees in public employers	• Peer educators • Informal persuasion techniques • Resource guide • Newsletters • 5 A Day gifts	*Individual level* Social Comparison Theory *Social group level* Social Network Models Diffusion of Innovations Theory	10 public employers in Tucson and Phoenix

employees); 28 small- to medium-sized businesses in the Seattle, Washington, metropolitan area (250 to 2,000 employees per business); and 10 large public employers in the Tucson and Phoenix, Arizona, metropolitan areas (with a combined total of more than 50,000 employees) (Beresford et al., 2000; Morrill et al., 1999; Sorensen et al., 1999). Employers in small companies and public organizations usually do not provide extensive worksite wellness programs for their employees. The Massachusetts researchers found that even though health care employees had a heightened awareness of nutrition and health, they still needed information to assist them in translating nutrition science into practical skills that they could use to purchase and prepare vegetables and fruit.

The worksite populations in Massachusetts and Arizona included sizable proportions of minority employees: 23 percent of the Massachusetts employees and 42 percent of the Arizona labor and trades employees self-identified as Hispanic; 18 percent of the community health center employees were African-American; and 11 percent of the Arizona labor and trades employees were African-American, Native American, or Asian-American. Also, many employees had low education levels: in Massachusetts, about 20 percent of employees had a 12th-grade education or less, and in Arizona, 51 percent of employees had a 12th-grade education or less. In national dietary surveys, minority status and lower education levels were associated with lower vegetable and fruit intake (Krebs-Smith et al., 1995). This diversity of ethnicity, race, and educational attainment provided researchers with the opportunity to reach persons who do not always respond well to national health campaigns (Ramirez and McAlister, 1988) and who have higher

incidences of and lower survival rates for chronic diseases (American Cancer Society, 1998; Peters et al., 1986). These projects used strategies that were adapted to respond to the diversity that existed in these employee populations.

Another important aspect of these employee populations was the gender distribution. Most of the employees in the Massachusetts (84 percent) and Seattle (58 percent) workplaces were female, but the majority of the Arizona target population was male (74 percent).

DESCRIPTION OF 5 A DAY WORKSITE PROJECTS

Intervention Methods

Key elements of the three projects are summarized in Table 1, and the theories used to guide the programs are explained in Appendix D.

Massachusetts' TreatWell 5 A Day Program

The TreatWell 5 A Day Program was tested for effectiveness with employees of community health centers. Two forms of the program were evaluated for their ability to increase employees' vegetable and fruit consumption—a worksite-only and a worksite-plus-family intervention. Worksites were randomly assigned to one of these two intervention conditions or to a minimal-intervention control condition. For all conditions, three core interventions targeting individual employees were implemented, i.e., promotion of the national 5 A Day campaign, promotion of NCI's Cancer Information Service hotline, and a 1-hour nutrition education program with a taste test. Core interventions refer to those activities that health centers agreed to deliver as a condition of participation.

Additional core intervention activities targeting individuals for the worksite-only and worksite-plus-family conditions included the following: a kickoff event that introduced the program to the worksite, a 10-session nutrition education discussion series titled Eat Well, and 2 campaigns lasting 3 to 5 weeks that featured multiple activities organized around a 5 A Day theme.

Core interventions targeting the organizational environment for the worksite-only and worksite-plus-family conditions included point-of-purchase labeling and signage at vending machines and in break rooms, and encouragment for health center management to implement catering policies.

Core interventions targeting the family in the worksite-plus-family condition included: 1) Fit in Five, a five-session, learn-at-home nutrition education program; 2) four family newsletters and home mailings; 3) two family-oriented 5 A Day activities (family festivals) incorporated into annual health center-sponsored family events, such as picnics, holiday celebrations, and health fairs; and 4) two worksite-wide family 5 A Day campaigns. The interventions are described in detail elsewhere (Hunt et al., 2000).

Research staff members and investigators used principles of community building and worker participation to form employee advisory boards (EABs). Board members represented all segments of the health center population, including various departments and cultural groups (Sorensen et al., 1992). Project staff trained board members on the relationship between diet and cancer prevention and in skills needed to disseminate project messages throughout the health centers. Board members provided input to research staff that enabled staff and employees to plan and implement interventions in a way that suited the culture of the particular health center. The functioning of the TreatWell 5 A Day EABs as well as the process evaluation results related to the Program are described in detail elsewhere (Hunt et al., 2000).

Seattle, Washington's 5 A Day Program

The Seattle 5 A Day Program consisted of a series of 5 A Day messages and intervention activities designed to move employees in private companies along the continuum of change in vegetable and fruit intake from precontemplation (not thinking of changing) to maintenance (development of a 5 A Day habit). The program staff developed the initial version of these messages and activities. In the control condition, process and outcome measures were collected at baseline and followup, but worksites did not receive the program until after all posttesting was completed. Process evaluation of the intervention was reported by Beresford and colleagues (2000).

EABs were formed at worksites, and their members were responsible for tailoring intervention

materials to their worksites. However, the responsibilities of EAB members in the Seattle program exceeded those in Massachusetts and included implementing 5 A Day intervention activities and recruiting other worksite volunteers to participate in the intervention. The EABs were assisted by a project intervention specialist who visited the worksite approximately every 2 weeks and facilitated program implementation by providing nutrition education materials, assisting with activities, and participating in EAB meetings.

Messages about 5 A Day were regularly posted and updated to provide constant reminders about the importance of eating vegetables and fruit. Structural changes in food availability were achieved by working closely with cafeteria and food-service staff to provide more vegetables and fruit as part of the regular menus. Message content was altered over time, following a sequence suggested by the Stages-of-Change, or Transtheoretical, Model (see Appendix D). Messages targeted the transition points between stages sequentially, first changing from the precontemplation to contemplation stage, then from the contemplation to preparation stage, then from the preparation to action stage, and finally, from the action to maintenance stage. By taking this approach, the program staff aimed to change dietary behavior gradually.

In addition to this sequence based on the Transtheoretical Model, intervention activities implemented in the Seattle program's first phase were designed to increase awareness of the 5 A Day concept by transmitting messages to eat more vegetables and fruit and by introducing a preliminary campaign that foreshadowed the program's launch. In the second phase, a worksite-wide kickoff event provided opportunities for learning about the benefits of eating more vegetables and fruit and for assessing personal knowledge and diet. The program's third phase emphasized building employees' skills by providing them with a copy of a self-help manual, titled Take 5: A Guide to Healthful Eating, and by changing the food environments at the worksites. In the final phase, activities that emphasized maintenance were implemented.

Arizona's 5 A Day for the Overlooked Worker Project

Two interventions were implemented in the public-sector worksites: a minimal intervention to all employees at the 10 worksites and an intensive program to 41 social networks of blue collar, labor, and trades employees (Buller et al., 1999). The minimal intervention was a general 5 A Day wellness program in which printed nutrition education materials and messages from the national 5 A Day Program were distributed through formal worksite communication channels, such as cafeteria promotions, posters, paycheck stuffers, newsletter articles, and e-mail messages. A series of guest speakers from the local communities made presentations on 5 A Day and related topics. Guest speakers were selected and scheduled by project staff who worked with key contact persons at worksites. Printed materials, cafeteria promotions, guest speakers, and three different themes from the national program (Eat More Salads, Fast and Easy, and Fit with Five) were included and rotated over 18 months to maintain the novelty of the 5 A Day messages. When available, Spanish-language versions of the national materials were distributed. Project contact persons and managers (e.g., cafeteria managers) at each worksite were responsible for distributing and displaying 5 A Day messages and materials, which were purchased by the Arizona research group.

The intensive peer education intervention consisted of 5 A Day training conducted by employees who were centrally located in terms of communication flow within their informal social networks at work but who were not in supervisory roles (Buller et al., 1999). Program staff trained these peer educators in dietary and cancer prevention principles; in skills for selecting, preparing, and storing vegetables and fruit; and in strategies for educating and motivating dietary change. Training was conducted in eight 2-hour sessions with presentations, group discussions, and role-playing exercises.

During the last 9 months of the general 5 A Day wellness program, the peer educators worked to incorporate 5 A Day messages into informal communication among coworkers, without interfering with their job responsibilities. Peer educators employed a number of persuasive techniques for motivating behavior change (Larkey et al., 1999), provided advice on ways to overcome barriers to change, and addressed problems that their coworkers encountered when attempting to eat more vegetables and fruit. They also encouraged coworkers to make changes in the workplace

environment to enable greater vegetable and fruit consumption (e.g., requesting that vending machines contain 100 percent fruit juice and stocking community refrigerators with fruit). Peer educators received monthly telephone contacts from, and attended monthly in-service training sessions with, project research staff, who provided them with support, trained them in additional topics related to 5 A Day, collaborated on solutions to overcome obstacles encountered, and maintained their motivation to be peer educators.

To guide the peer educators, project staff developed a series of specially designed print educational materials—a nine-booklet 5 A Day resource guide and four 5 A Day newsletters. The major purpose of these materials was to assist peer educators in discussing the benefits of vegetables and fruit with coworkers and to provide appropriate 5 A Day education, tailored to this group of multicultural, largely male, less-educated employees in a southwestern State. These publications were designed to increase knowledge; alter beliefs and attitudes; address stages of change with, skills in, and barriers to eating vegetables and fruit; direct employees to events and activities in the general 5 A Day Program; and deliver timely 5 A Day information. The nine booklets in the resource guide each had a different theme, chosen for variety and interest to the target population: 1) vegetables and fruit, 2) Arizona Grown (5 A Day program sponsored by the Arizona Departments of Health Services and Agriculture), 3) fitness and 5 A Day, 4) family fun, 5) health benefits, 6) organic vegetable gardening, 7) festive foods, 8) quick and easy, and 9) 5 A Day for life.

These printed materials included the 5 A Day guidelines, theme articles, an ask-a-nutritionist column, a research report, a theme-oriented center spread of the booklet, an Arizona Grown calendar of seasonal vegetables and fruit and their nutritive properties, a Kids' Korner with fun activities for children, recipes and regional foods, an interactive record and calendar of progress, a top 10 list, and quick tips and fast 5 A Day facts. Booklets included interactive features, such as recordkeeping devices, menu planners, nutritionist columns, and goal-setting aids. Many features were included to draw the attention and interest of the employees' spouses and children so that the materials would become a family resource. The resource guide booklets were distributed monthly and the newsletters bimonthly. Also, peer educators provided coworkers with gifts (e.g., an Arizona Grown brochure, a water bottle with the 5 A Day logo, vegetable seeds, and a Spanish-language recipe book) to help them practice the 5 A Day skills taught during each month. These gifts were not incentives or rewards for taking 5 A Day action, as they were given to all employees regardless of their dietary behavior.

For more information on program features, see Buller and colleagues (1999). Assessments of exposure to the programs and the association between exposure and dietary changes within this project were reported by Buller and colleagues (2000).

Special Program Strategies Used With Culturally Diverse Employees

A unique feature of both the Massachusetts and Arizona programs was that they were designed to adapt 5 A Day messages and activities to reach and affect culturally diverse employee populations (Puerto Rican- and Mexican-Americans). At those Massachusetts community health centers with a large number of Hispanic employees, activities were modified to reflect Hispanic diet, language, and culture relevant to employees in the participating centers. For example, there were contests to guess the types of beans used in traditional recipes and to suggest alternative healthful bean recipes, because this is a staple food. In a family poetry contest with a vegetable and fruit theme, employees were encouraged to use their first language; poems written in Spanish were published in both Spanish and English (translated by the project staff). Latin themes and music were used in family festivals, and a bilingual intervention coordinator conducted meetings in Spanish when appropriate.

In Arizona, 39 percent of peer educators were Hispanic employees, and the resource guide contained both Spanish and English messages. However, Arizona researchers determined that a full, literal Spanish translation of the guide was not necessary. A high proportion of employees (> 85 percent) read English as well as (or better than) Spanish, and Mexican-American employees in focus groups said that they were not avid readers of Spanish but valued having at least some information available in Spanish. Thus, the highlights of many features were translated into Spanish, only very important messages were com-

pletely translated, and a Spanish summary was included for each booklet. Another popular feature with Hispanic employees was the photonovella (Kincaid, 1993; Piotrow et al., 1997), a continuing melodrama of characters, including a 5 A Day peer educator, coworkers, and family members, presented in photographs formatted like a comic strip. The photonovellas were presented in both Spanish and English because it was difficult to summarize them. Also, 5 A Day recipes were provided for common Mexican dishes.

EVALUATION OF THE EFFECTS OF THE 5 A DAY WORKSITE PROJECTS

Methods for Evaluating Program Success

All three 5 A Day worksite projects used randomized controlled evaluation designs, in which the alternative programs were compared to one another in order to assess the efficacy or effectiveness of the programs at improving daily vegetable and fruit intake. In Massachusetts, 22 community health centers were randomized to one of the three conditions. In Washington, 28 Seattle worksites—14 intervention (full program) and 14 control (minimal intervention)—were randomized into the project on completion of baseline surveys. Blocking variables included baseline survey response rates, type of worksite (e.g., educational, medical, or other), size of worksite, and the percentage of female employees. In Arizona, 82 informal social networks (or cliques) in 10 large worksites were matched on baseline vegetable and fruit intake, stage of change in dietary intake, self-efficacy expectations, coworker and management health supports, network characteristics, and proportion of female and Hispanic employees. One network in each pair was then randomized to the peer education program.

All evaluation designs included a baseline survey conducted prior to randomization and implementation and a followup survey conducted upon completion of the program. In both Massachusetts and Arizona, a census of eligible employees was attempted within each sampling unit (in Massachusetts, samples of 100 employees were surveyed in the two largest community health centers). Independent cross-sectional samples of employees were surveyed in the Seattle worksites at baseline and followup. The Arizona researchers also conducted a 6-month followup survey to assess the persistence of program effects. The Massachusetts investigators conducted a worksite characteristics survey with executive directors of the community health centers to assess organizational changes produced by the program and to identify workplace characteristics that may have modified or mediated change.

Investigators in the three worksite projects agreed to include as one of their outcome measures a seven-item vegetable and fruit-intake food-frequency questionnaire (Subar et al., 1995; Serdula et al., 1995) based on Block's food-frequency survey (Block et al., 1986) (see also Chapter 8 and Appendix E). Other vegetable and fruit-intake assessments also were included in the surveys: in Massachusetts, Willett's food-frequency questionnaire (Willett et al., 1985) and a single question on daily servings of vegetables and fruit. In Seattle, a single question on daily servings of vegetables and fruit, a usual-day checklist, the vegetable and fruit subscale from the fat and fiber behavior questionnaire, and three unannounced 24-hour recalls were used. In Arizona, an abbreviated 24-hour intake record probing for vegetable and fruit consumption was used. The surveys also included measures of stages of change, self-efficacy, and beliefs and attitudes related to vegetable and fruit consumption. In addition to evaluating the overall efficacy or effectiveness of the 5 A Day worksite programs, researchers also evaluated the mediating and modifying mechanisms in program effectiveness (Arizona and Massachusetts), in program efficacy for decreasing fat consumption (Massachusetts), in program efficacy for altering the work environment to support vegetable and fruit consumption (Massachusetts), in the persistence of changes in consumption (Arizona), and in program cost-effectiveness (Massachusetts). All projects also assessed the process of program implementation. Data from these measures are reported elsewhere (Beresford et al., 2000; Buller et al., 2000; Hunt et al., 2000) and are summarized in the following section.

Selected Outcomes of 5 A Day Worksite Projects

Massachusetts' TreatWell 5 A Day Program

The worksite-plus-family intervention condition group was more successful in increasing vegetable and fruit consumption than the worksite-only

condition group. Controlling for gender, education, occupation, living situation, and worksite, employees in the worksite-plus-family condition group increased vegetable and fruit consumption by 19 percent (approximately 0.5 serving per day) compared with no change in the control group ($p = 0.018$). A 7-percent increase (approximately 0.2 serving per day) was observed in the worksite-only condition group (Sorensen et al., 1999).

Washington's 5 A Day Project

The comparison of the worksites between the intervention and control conditions in Seattle using cross-sectional samples at baseline and followup showed that the 5 A Day worksite program improved vegetable and fruit consumption by 0.3 serving per day, as measured at 24 months post-baseline (3 to 10 months post-intervention) on the seven-item questionnaire. This increase was significant ($p < 0.05$) in a mixed-model regression analysis, with treatment (fixed), pairing, and pairing by treatment (random) effects. Analyses of other intake measures also provided evidence of a small but true positive intervention effect by the Seattle 5 A Day Program.

Arizona's 5 A Day for the Overlooked Worker Project

The 5 A Day peer education program produced greater immediate increases in vegetable and fruit consumption than did the general 5 A Day Program when averaged within informal social networks and compared within matched pairs using regression analysis. On the seven-item questionnaire, vegetable and fruit intake significantly increased by 0.46 serving per day in the peer education condition groups compared with that observed in the control cliques ($p = 0.002$). When measured by the seven-item questionnaire at the 6-month followup survey, however, this effect of the 5 A Day peer education program did not persist (-0.04 serving, $p = 0.743$). The immediate positive effect of the 5 A Day peer education program also appeared in the 24-hour dietary recall measure (+0.77 daily serving, $p < 0.001$), but this assessment did show lasting change 6 months after the program was completed (+0.41 serving, $p = 0.034$) (Buller et al., 1999).

Comparison of the Effectiveness of 5 A Day Worksite Projects

All three 5 A Day worksite projects improved employees' daily intake of vegetables and fruit when the maximum set of intervention activities was delivered. The projects achieved smaller observed changes, which may have been due to methods used in conducting the followup surveys. The Arizona evaluation showed that the peer-led 5 A Day worksite project's positive impact on consumption declined once project activities ceased, but enough change persisted to be detected at the 6-month followup. Still, it appears that worksite dietary change programs need to be maintained, rather than being implemented one time, in order to achieve persisting changes in dietary patterns.

The similar positive outcomes of all three worksite projects conducted in very different environments and geographic areas with different populations imply that worksite nutrition education programs can motivate adults to take actions to increase vegetables and fruit in their diets. The successes in Massachusetts and Arizona also indicated that 5 A Day worksite programs can be effective when designed specifically for culturally diverse employee populations and for employee groups with lower educational status, both of which have been difficult to affect with previous worksite wellness programs and community nutrition education programs. These outcomes and experiences in the development and implementation of the 5 A Day worksite projects provided investigators with several important theoretical and practical lessons.

LESSONS LEARNED

- A combination of individual- and environmental-level intervention strategies is effective in promoting dietary change in adult employees.
- Involving coworkers in peer education and incorporating families in behavior change efforts effectively influence workers to change their diets to include more vegetables and fruit.
- Multicultural adults, less-educated adults, and males show an interest in methods for improving their health.
- Incorporating the influences of families and coworkers supports dietary change.
- It is feasible to recruit private businesses, public health agencies, and public employers to participate in a community-based nutrition education program and in its evaluation.

- A 5 A Day worksite project is feasible and acceptable for use in the entire workplace, in cafeterias, and in the informal social environment at work.
- Peer education and communication network strategies can improve vegetable and fruit consumption among nonmanagerial and trades employees.
- Dietary changes can be achieved by treating worksites or work groups as a whole rather than by counseling employees individually.
- Worksite 5 A Day projects can produce changes in dietary patterns that persist for several months; however, these changes decay over time—worksite projects should be maintained rather than delivered only one time.

DIRECTIONS FOR FUTURE RESEARCH ON 5 A DAY WORKSITE PROJECTS

The outcomes and lessons learned in these three projects raise many questions that deserve further consideration by investigators and program planners. Some of these include whether to focus on single behaviors regarding vegetables and fruit, how to address nutrition education for males, whether the projects are effective differentially in various ethnic groups, and which methods are most successful for achieving long-term dietary changes. What follows is a summary of a few of the larger issues that arose in the course of implementing these projects.

All three projects focused on a single health issue—eating more vegetables and fruit. However, Massachusetts embedded 5 A Day messages within the framework of total diet; that is, the Eat Well 5 A Day discussion group series addressed fat and fiber, in addition to vegetables and fruit. The projects definitely benefited from this focus on a single issue in the development of intervention activities and in the delivery of simple, clear recommendations. However, simple messages can quickly become stale with repetition, and all three projects used various themes and rotated the topics to maintain novelty. Consequently, there is a need for research to identify other strategies that can improve the effect of simple, focused messages. One strategy might be to incorporate 5 A Day messages in a multirisk-factor worksite wellness project and test whether the messages are as effective at improving vegetable and fruit intake when they are accompanied by messages on other disease risk factors. The inclusion of messages on other disease risks would help maintain the novelty of the intervention messages, but the messages to increase vegetable and fruit intake may not be as potent when employees are asked to consider making several different changes in their lifestyles, not all of which are related to diet. At least one study has indicated no advantage to this multirisk-factor strategy (Sorensen et al., 1996). However, a progressive approach to building a multirisk-factor program—where worksite wellness professionals start with 5 A Day messages and then integrate messages with related disease-prevention behaviors (e.g., reducing dietary fat, increasing dietary fiber, or initiating a program of regular exercise) in which 5 A Day messages can be reinforced—might be an effective strategy. This suggests an avenue for future work to expand the approaches evaluated in these programs.

One important factor that was not tested directly was the role of gender and the differences between men and women in mediating mechanisms for dietary change. Traditionally, women have been the focus of many community nutrition programs, and they were the focus in the Massachusetts project. However, the Arizona project showed that a 5 A Day worksite project can promote substantial dietary changes in a majority male population. There needs to be further exploration of the unique experiences of men and women that may determine their responses to program activities, such as different experiences in food selection and preparation, balancing of home and work, and health maintenance behaviors.

These three projects worked with a variety of employers (private and public; large, medium, and small) and employees (upper to lower socioeconomic status). No single project, though, performed direct comparisons between employee populations. Such a study would be instructive, for each characteristic of the worksite can affect what Program activities are possible, the perceptions of the importance of workers' health to the organization, and the experiences with preventive behaviors and health promotion programs.

Finally, future studies should identify strategies to produce persisting change in dietary patterns. The simple 5 A Day message may be easy to learn, but methods will be needed to keep the idea novel when employees hear it many times. Including the message in a multiple-risk-factor wellness program may be one way to maintain employee interest in the 5 A Day concept.

SUMMARY

The workplace provides health promotion program planners with many advantages, such as the ability to reach most adults, as well as many challenges, including outreach to employees who do not work in office settings. The three worksite projects demonstrated that 5 A Day interventions can be effective in increasing vegetable and fruit consumption. Thus, the worksite remains an important venue for 5 A Day activities. It is an effective community channel for national and local Program activities to affect underserved and hard-to-reach populations with the 5 A Day concept. The strategies used in the studies reported here also may strengthen social support for dietary change and improve employee morale in the workplace.

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